Applicant : Imad Mahawili, Ph.D
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IN THE SPECIFICATION:

On page 5, please replace the paragraph starting on line 32 with the following new paragraph:

Referring to FIG. 1, the numeral 10 generally designates a semiconductor processing apparatus of the present invention. As will be more fully described below, semiconductor processing apparatus 10 is adapted to deliver heat to a semiconductor substrate S, such as a silicon wafer, which is supported in a chamber 20 of apparatus 10, in a manner to achieve thinner junctions and, therefore, create faster devices, while maintaining the vertical ~~thermoelestic~~ thermoelastic stresses in the substrate at acceptable levels. Furthermore, apparatus 10 is adapted to heat the device side of the substrate to no more of a depth in a range of about 1 to 5 micro-meters, more preferably in a range of about 1 to 3 micro-meters and, most preferably, to a depth in a range of about 1 to 2 micro-meters, and to heat this thickness to a temperature of at least 900° C, more preferably, of at least 1000° C, and most preferably, up to 1100° C as rapidly as possible and for a short duration, for example on the order of a few hundred milliseconds or less, while maintaining the vertical thermoelastic stresses in the substrate at acceptable levels.

On page 9, please replace the paragraph starting on line 3 with the following new paragraph:

In other applications, the rotation of heater housing 22 is increased to a much higher speed, such as up to a range of 200 to 300 rpm but typically at a speed of 180 rpm over a period of a few seconds. As noted above, substrate S is irradiated with a short pulse of this high energy. The pulse duration is selected depending on the implant impurity in the specific device geometry that is being processed. The pulse duration typically varies from a few microseconds up to 1 to 2 seconds. However, typically a few hundred milliseconds can be used. Since source 34 delivers energy over a wavelength at a range of typically in a range of about 0.3 microns to 0.9 microns, the substrate absorbs substantially all of the energy with practically no transmission. The absorbed energy from source 34 energizes the top layer, such as 1 to 2 microns, of the device side of the substrate and activates the implanted

impuritics ~~purities~~ so that they will become part of the lattice of the substrate material. As the pulse duration passes, the absorbed energy then relaxes and results in vertical temperature decay into the bulk silicon temperature field that is at a steady state of approximately 500° to 600°. The bulk of the silicon substrate, therefore, acts as a heat sink which rapidly quenches the high energy induced into the top 1 to 2 micron layer. The result is a controlled implant diffusion into the silicon.